unitech
because we care

Laser Scanner

- MS837 -

User's Manual

Version 1.4

About This Manual

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Regulatory Compliance Statements

FCC Warning Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference with radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure requirements, avoid direct contact to the transmitting antenna during transmitting.
3. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

FCC Label Statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

RF Radiation Exposure Statement

For body contact during operation, this phone has been tested and meets FCC RF exposure guidelines when used with an accessory that contains no metal and that positions the handset a minimum of 1.5 cm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

Canadian Compliance Statement

This Class B Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

European Conformity Statement

Declaration of Conformity with regards to the R&TTE 1999/5/EC and EMC 89/336/ EEC directives.

RoHS Statement

This device conforms to RoHS (Reduction Of Hazardous Substances) European Union regulations that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

Taiwan NCC Warning Statement

交通部電信總局低功率電波輻射性電機管理辦法 (930322)

根據交通部低功率管理辦法規定：

第十二條　經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條　低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

減少電磁波影響，請妥適使用

Laser Information

The Unitech MS837 series is certified in the U.S. to conform to the requirements of DHHS/CDRH 21CFR Subchapter J and to the requirements of IEC 825-1. Class II and Class 2 products are not considered to be hazardous. The MS837 series contains internally a Visible Laser Diode (VLD) whose emissions do not exceed the maximum limits as set forth in the above regulations. The scanner is designed so that there is no human access to harmful laser light during normal operation, user maintenance or prescribed service operations.

The laser safety warning label required by the DHHS/IEC for the MS837 series' optional laser scanner module is located on the memory compartment cover, on the back of the unit.

CAUTION! Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Use of optical instruments with the scanner, including binoculars, microscopes, and magnifying glasses, with will increase eye damage. This does not include eyeglasses worn by the user.

Warranty

The following item covered under the Unitech Limited Warranty are free from defects during normal use:

- MS837 – 1-year limited warranty.

Warranty becomes void if equipment is modified, improperly installed or used, damaged by accident or neglect, or if any parts are improperly installed or replaced by the user.

Use only the adapter supplied. Using the wrong adapter may damage the unit and will void the warranty.

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Chapter 1

Overview

The MS837 has been factory configured with a set of default parameters. Since many host systems have unique formats and protocol requirements, the MS837 provides a wide range of configurable features that may be selected using the programming bar codes included in this reference guide. Once the configuration is completed, the MS837 stores the settings in nonvolatile memory (NOVRAM). NOVRAM saves the settings when the power is off.

Note: Bar code descriptions marked with an asterisk (*) define a feature that is a factory default. Bar codes marked with a tilde (~) require the Multi-Code configuration method.

Parts of the Scanners

Getting Started

Turn off the computer's power before connecting the scanner, and then power up the computer once the scanner is fully connected.

Connecting the Scanner

USB:

Follow the steps below to connect the scanner:

1. Plug the interface cable modular connector into the cable interface port on the bottom of the scanner's handle.

2. Connect the USB connector of the USB cable to the USB port of a host PC.
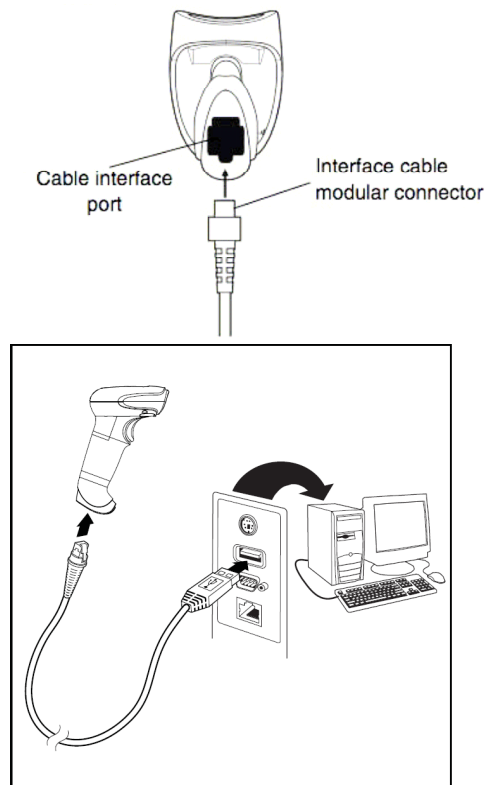
Keyboard Wedge:
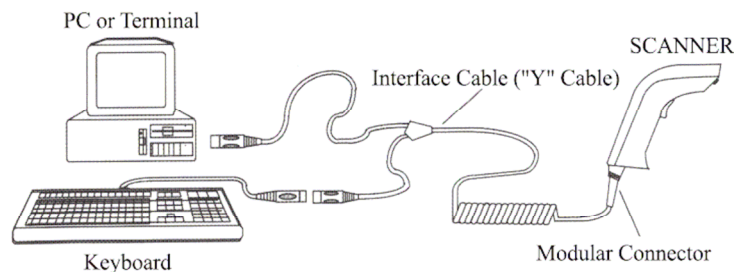
Follow the steps below to connect the scanner:

1. Turn off the power to your computer or host terminal.
2. Unplug the keyboard cable from the computer/host terminal, and plug it into the female connector of the 'Y' interface cable.
3. Plug the male keyboard connection end of the 'Y' interface cable into the keyboard port of the computer/host terminal.
4. Plug the modular connector end of the 'Y' interface cable into the scanner.

2

5. Power on the computer/host terminal.
6. The MS837 will automatically power on, and a power-up beep will be emitted, when the computer/host terminal is turned on.

Removing the Interface Cable

Unplug the installed cable's modular connector by depressing the connector clip with the tip of a screwdriver.

Bar Code Configuration Methods

The scanner can be bar code configured in two ways: the *Single-Code Method* and the *Multi-Code Method*.

Note: To properly configure an MS837 scanner, all configuration codes must be scanned using the CodeGate® option.

Single-Code Method

Most features can be enabled or disabled using the Single-Code Method.

1. Power-up the scanner.

2. Scan the bar code for the desired feature.

3. The scanner will emit a multi-toned beep to indicate the configuration has been saved to NOVRAM.

Multi-Code Method

All features can be enabled or disabled using the Multi-Code Method. A feature marked with a tilde (~) requires the Multi-Code Method.

1. Power-up the scanner.

2. Scan the *enter/exit configuration mode* bar code (3 beeps).

3. Scan the bar code for the desired feature (1 beep). Multiple features can be enabled/disabled before scanning the enter/exit configuration mode bar code.

4. Scan the *enter/exit configuration mode* bar code (3 beeps) and save the new configuration. To abort a configuration change, power off the scanner before scanning the *enter/exit* code.

Enter/Exit Configuration Mode

‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖ ‖‖
³ 9 9 9 9 9 9

Need To Start Over?

Scan the *Recall Defaults* bar code to erase all previous settings and return the scanner to its factory default communication protocol. Keyboard Wedge interface scanners will load keyboard wedge defaults.

Recall Defaults

‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖ ‖‖
³ 9 9 9 9 9 8

Chapter 2

Code Types and Decode Rules

Bar code descriptions marked with an asterisk (*) define a feature that is a factory default. Bar codes marked with a tilde (~) require the Multi-Code configuration method.

UPC/EAN

‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	* **Enable UPC/EAN**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	**Disable UPC/EAN**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	* **Enable UPC-A**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	**Disable UPC-A**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	* **Enable UPC-E**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	**Disable UPC-E**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	* **Enable EAN-13**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	**Disable EAN-13**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	* **Enable EAN-8**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	**Disable EAN-8**

Code 128

‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	* **Enable Code 128**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	**Disable Code 128**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	**Enable UCC/EAN-128 ']C1' Code Formatting**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	* **Disable UCC/EAN-128 ']C1' Code Formatting**

‖‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖‖		**Ignore <FNC4> Code 128 Characters**
‖‖ ‖‖‖‖‖ ‖‖‖‖‖ ‖‖	*	**Use <FNC4> to Determine Extended ASCII Characters**

Code 39

‖‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖ ‖‖‖	*	**Enable Code 39**
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖		**Disable Code 39**
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖		**Enable MOD 43 Check Digit on Code 39** - The scanner only scans Code 39 bar codes that have a valid Modulo 43 check digit.
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖‖	*	**Disable MOD 43 Check Digit on Code 39**
‖‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖‖		**Enable Full ASCII Code 39**
‖‖ ‖‖‖‖‖ ‖‖‖‖‖ ‖‖	*	**Disable Full ASCII Code 39**
‖‖ ‖‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖‖		**Enable PARAF (Italian Pharmaceutical Codes) Support -** Code 39 bar codes are converted to PARAF format.
‖‖ ‖‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖	*	**Disable PARAF Support**
‖‖ ‖‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖ ‖	*	**Allow PARAF Codes Only**
‖‖ ‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖		**Allow Non-PARAF Codes**
‖‖ ‖‖ ‖‖‖‖ ‖‖‖‖ ‖‖‖		**Enable TRI-OPTIC Code**
‖‖ ‖‖ ‖‖‖‖‖ ‖‖‖ ‖‖ ‖	*	**Disable TRI-OPTIC Code**
‖‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖	*	**Use Standard Code 39 Framing**
‖‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖‖		**Try Code 39 Codes Without 5 Bar Multiples**
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖ ‖‖		**Enable ITF/Code 39 Filters**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖ ‖‖	*	**Disable ITF/Code 39 Filters**

‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖ ‖‖		**Enable Self-Service Library Code 39**
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖	*	**Disable Self-Service Library Code 39**
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖ ‖‖		**Transmit MOD 43 Check Digit** - with Self Service Library Code 39
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖	*	**Do Not Transmit MOD 43 Check Digit** - with Self Service Library Code 39
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖		**Enable Alternate Code 39 Reference Comparison Check** - assists with elements that are below the 2 to 1 (wide to narrow) element width requirement.
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖	*	**Normal Code 39 Reference Comparison Check**

2 OF 5 CODES

‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖ ‖‖	*	**Enable Interleaved 2 of 5 (ITF)**
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖ ‖‖		**Disable Interleaved 2 of 5 (ITF)**
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖		**Enable MOD 10 Check on ITF** - The scanner will only scan Interleaved 2 of 5 (ITF) bar codes that have a Modulo 10 check digit.
‖‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖	*	**Disable MOD 10 Check on ITF**
‖‖ ‖‖‖‖ ‖‖ ‖‖‖‖‖‖		**Allow ITF Null Characters**
‖‖ ‖‖‖‖ ‖‖‖ ‖‖‖ ‖‖	*	**Do Not Allow ITF Null Characters**
‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	~	**ITF Symbol Length Lock 1**
‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖	~	**ITF Symbol Length Lock 2**
‖‖ ‖‖ ‖‖‖‖‖‖ ‖‖‖ ‖‖	~	**ITF Minimum Symbol Length**
‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖ ‖‖		**Alternative ITF first Bar Reference**
‖‖ ‖‖ ‖‖‖‖‖‖‖‖ ‖‖ ‖‖	*	**Normal ITF first Bar Reference**

Barcode		Description
‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ ‖‖ 3 1 0 0 1 1 0		**Enable Standard 2 of 5**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 0 1 0 0	*	**Disable Standard 2 of 5**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 9 0 1 5 0 0	~	**Standard 2 of 5 Symbol Length**
‖‖ ‖ ‖‖‖ ‖‖‖‖‖‖‖ ‖‖ 3 1 0 0 0 1 5		**Enable Matrix 2 of 5**
‖‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖ 3 1 0 0 0 0 5	*	**Disable Matrix 2 of 5**
‖‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖ ‖‖ 3 1 0 0 5 0 7	*	**Enable Matrix 2 of 5 Check Digit Requirement**
‖‖ ‖ ‖‖‖‖ ‖‖ ‖‖‖‖‖‖‖ 3 1 0 0 5 1 7		**Disable Matrix 2 of 5 Check Digit Requirement**
‖‖ ‖ ‖‖‖‖‖‖ ‖ ‖‖‖‖‖ 3 1 0 0 0 1 4		**Enable 15 Digit Airline 2 of 5**
‖‖ ‖‖‖‖‖ ‖‖‖ ‖‖ ‖ ‖ 3 1 0 0 0 0 4	*	**Disable 15 Digit Airline 2 of 5**
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖ ‖‖ ‖ 3 1 0 0 3 1 3		**Enable 13 Digit Airline 2 of 5**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖ 3 1 0 0 3 0 3	*	**Disable 13 Digit Airline 2 of 5**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖ ‖ ‖‖‖ 3 1 0 0 3 1 6		**Enable Hong Kong 2 of 5**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖‖ ‖‖ ‖‖ 3 1 0 0 3 0 6	*	**Disable Hong Kong 2 of 5**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖ 3 1 1 5 4 1 1		**Enable Follett ITF**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖ ‖ 3 1 1 5 4 0 1	*	**Disable Follett ITF**

Codabar

Barcode		Description
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖‖ 3 1 0 0 1 1 4	*	**Enable Codabar**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖‖ ‖ 3 1 0 0 1 0 4		**Disable Codabar**
‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ 3 1 0 0 0 1 2		**Enable Dual Field Codabar**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖ ‖‖‖ 3 1 0 0 0 0 2	*	**Disable Dual Field Codabar**

Code 93

‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 0 1 1 2	*	**Enable Code 93**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖ 3 1 0 0 1 0 2		**Disable Code 93**

Code 11

‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 0 0 1 3		**Enable Code 11**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 0 0 0 3	*	**Disable Code 11**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖ 3 1 0 8 0 0 5	*	**Check for 1 Code 11 Check Digit**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖ 3 1 0 8 0 1 5		**Check for 2 Code 11 Check Digits**
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖ ‖‖‖ 3 1 0 8 0 0 4	*	**Do Not Check for 2 Code 11 Check Digits**
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖ 3 1 0 8 0 1 4		**Check for 2 Code 11 Check Digits if Code Length is Greater Than 10 Characters**

Telepen

‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖ 3 1 0 0 0 1 7		**Enable Telepen**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖‖ 3 1 0 0 0 0 7	*	**Disable Telepen**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖ ‖‖ 3 1 0 0 0 1 6		**Enable ALPHA Telepen**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖ 3 1 0 0 0 0 6	*	**Disable ALPHA Telepen**

Plessey Codes

‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖ 3 1 0 0 2 1 2		**Enable MSI Plessey**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖ ‖‖ 3 1 0 0 2 0 2	*	**Disable MSI Plessey**
‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖‖‖‖ ‖ 3 2 0 0 7 0 4	*	**No MSI Plessey Check Digit** - Plessey bar codes will not be tested for a check digit.

|||||||||||||||| **Enable MSI Plessey MOD 10/10 Check Digit** - Test MSI Plessey bar
3 2 0 0 7 3 4 codes for a 2 digit Modulo 10 check digit.

|||||||||||||||| * **Enable MSI Plessey MOD 10 Check Digit** - Test MSI Plessey bar
3 2 0 0 7 2 4 codes for a 1 digit Modulo 10 check digit.

|||||||||||||||| **Enable UK Plessey**
3 1 0 0 1 1 7

|||||||||||||||| * **Disable UK Plessey**
3 1 0 0 1 0 7

|||||||||||||||| **Enabled UK Plessey A to X Conversion**
3 1 0 0 7 1 6

|||||||||||||||| * **Disabled UK Plessey A to X Conversion**
3 1 0 0 7 0 6

|||||||||||||||| * **Standard Plessey Stop Characters**
3 1 0 8 0 0 3

|||||||||||||||| **Accept Bad Plessey Stop Characters**
3 1 0 8 0 1 3

Additional Decode Features

|||||||||||||||| **Enable Double Border Required / Large Intercharacter Space**
3 1 0 0 0 1 1

|||||||||||||||| * **Disable Double Border Required / Large Intercharacter Space**
3 1 0 0 0 0 1

|||||||||||||||| **Enable Small Border Required**
3 1 0 1 1 1 5

|||||||||||||||| * **Disable Small Border**
3 1 0 1 1 0 5

|||||||||||||||| ~ **Minimum Symbol Length** - Single-line default is 3.
3 9 0 1 8 0 0

|||||||||||||||| ~ **Symbol Length Lock** - Combine this code with the proper code bytes,
3 9 0 1 9 0 0 to lock the bar code's length into place.

|||||||||||||||| **Enable Modulus 8 Filter on Bar & Space Counts**
3 1 1 9 4 1 7

|||||||||||||||| * **Disable Modulus 8 Filter on Bar & Space Counts**
3 1 1 9 4 0 7

|||||||||||||||| **Handle Code 39 Bad Border**
3 1 0 0 7 1 2

‖‖ ‖‖‖‖‖‖‖ ‖‖ ‖‖   *   **Disable Code 39 Bad Border**

Configurable Code Lengths

There are seven bar code lock lengths available. Specific code types can be assigned to a lock length.

While in configuration mode:

1. Scan the code *length* lock #1 bar code (below).

2. Scan the three code bytes that represent the code length.

3. Scan the matching code *type* lock #1 bar code (below).

4. Scan the three code bytes that represent the code type.

This process can be repeated for lock lengths 2 through 7.

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖‖   ~   **Code Length Lock #1**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖‖   ~   **Code Type Lock #1**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖ ‖‖‖   ~   **Code Length Lock #2**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖ ‖ ‖‖‖   ~   **Code Type Lock #2**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖ ‖ ‖‖‖   ~   **Code Length Lock #3**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖ ‖‖‖   ~   **Code Type Lock #3**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖ ‖‖‖ ‖ ‖‖‖   ~   **Code Length Lock #4**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖ ‖‖‖   ~   **Code Type Lock #4**

‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖ ‖ ‖‖‖   ~   **Code Length Lock #5**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖ ‖ ‖‖‖   ~   **Code Type Lock #5**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖‖   ~   **Code Length Lock #6**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖‖ ‖ ‖‖‖   ~   **Code Type Lock #6**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ ‖ ‖‖‖   ~   **Code Length Lock #7.**

‖‖ ‖‖ ‖‖‖‖‖‖‖‖‖ ‖ ‖‖‖ ‖‖‖   ~   **Code Type Lock #7.**

‖‖‖ ‖‖ ‖‖‖‖‖‖‖‖ ‖ ‖‖‖
³ 1 2 4 7 1 3
Enable Japanese Multi-Field

‖‖‖ ‖‖ ‖‖‖‖‖‖‖‖ ‖‖‖ ‖‖‖
³ 1 2 4 7 0 3
Disable Japanese Multi-Field

Supplements

‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 1 7		**Enable Two Digit Supplements**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 0 7	*	**Disable Two Digit Supplements**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 1 2	*	**Enable Two Digit Redundancies** - The scanner will scan the bar code plus the 2 digit add on twice before accepting data.
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 0 2		**Disable Two Digit Redundancies**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 1 6		**Enable Five Digit Supplements**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 0 6	*	**Disable Five Digit Supplements**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 1 1		**Enable Five Digit Redundancies** - The scanner will scan the bar code plus the 5 digit add on twice before accepting data.
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 0 1	*	**Disable Five Digit Redundancies**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 1 3		**Supplements are Required** - All UPC/EAN labels that are scanned must have a supplement.
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 2 0 3	*	**Supplements are Not Required**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 4 1 6		**Enable Remote Supplement Required**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 4 0 6	*	**Disable Remote Supplement Required**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 2 5 1 1 4		**Enable Bookland (979) Supplement Required**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 2 5 1 0 4	*	**Disable Bookland (979) Supplement Required**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 4 1 7		**Enable Bookland (978) Supplement Required**
‖‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 4 0 7	*	**Disable Bookland (978) Supplement Required**

Barcode		Description
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 3 1 4		**Enable 977 (2 Digit) Supplement Required** - The scanner will require a 2 digit supplement to be scanned when an EAN-13 code begins with 977.
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 3 0 4	*	**Disable 977 (2 Digit) Supplement Required**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 3 1 3		**Enable 378/379 French Supplement Required**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 3 0 3	*	**Disable 378/379 French Supplement Required**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 4 1 3		**Enable 414/419 German Bookland Supplement Required**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 4 0 3	*	**Disable 414/419 German Bookland Supplement Required**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 4 1 5		**Enable 434/439 German Supplement Required**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 4 0 5	*	**Disable 434/439 German Supplement Required**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 4 1 2		**Enable # System 2 Requires Supplements**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 4 0 2	*	**Disable # System 2 Requires Supplements**
‖‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 2 1 5		**Enable UPC # System 5 Requires Supplements**
‖‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 2 0 5	*	**Disable UPC # System 5 Requires Supplements**
‖‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 0 0 0	*	**Enable 2 Digit Supplements with 37x, 43x, or UPC # System 5**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖ 3 1 0 1 0 1 0		**Disable 2 Digit Supplements with 37x, 43x, or UPC # System 5**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 1 0 0 1	*	**Enable 5 Digit Supplements with 37x, 43x, or UPC # System 5**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖ 3 1 0 1 0 1 1		**Disable 5 Digit Supplements with 37x, 43x, or UPC # System 5**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖ 3 1 0 0 3 1 5		**Enable Coupon Code 128**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖ 3 1 0 0 3 0 5	*	**Disable Coupon Code 128**
‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖‖ 3 1 0 1 4 1 1		**Enable Code 128 ']C1' Extended Code Format** - The scanner transmits a ']C1' at the beginning of the Code 128 portion of the coupon code.

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‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖‖ ₃₁₀₁₄₀₁	*	**Disable Code 128 ']C1' Extended Code Format.**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖‖ ‖‖ ₃₁₀₁₄₁₄	*	**Enable Code 128 Group Separators** - A "GS" (1DH) character will be transmitted with coupon Code 128 codes.
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖ ‖‖ ₃₁₀₁₄₀₄		**Disable Code 128 Group Separators**
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖ ‖‖ ₃₃₀₁₃₄₀		**400 msec to Find Supplemental** - The scanner will allot 400 milliseconds to *find* an add on after a main UPC/EAN bar code has been scanned.
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖‖ ₃₃₀₁₃₂₀		**200 msec to Find Supplemental** - The scanner will allot 200 milliseconds to *find* an add on after a main UPC/EAN bar code has been scanned.
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖‖ ‖‖ ₃₃₀₁₃₁₀	*	**100 msec to Find Supplemental** - The scanner will allot 100 milliseconds to *find* an add on after a main UPC/EAN bar code has been scanned.
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖ ‖‖ ₃₁₀₁₂₁₄		**Enable Code ID's with Supplements**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖‖ ‖‖ ₃₁₀₁₂₀₄	*	**Disable Code ID's with Supplements**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖ ₃₁₁₈₄₀₆	*	**Beep Once on Supplements**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖‖ ₃₁₁₈₄₁₆		**Beep Twice on Supplements**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖ ‖ ‖ ₃₁₀₁₃₁₅		**Enable ISBN Check Digit Transmission** - Not available with all models.
‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖‖ ‖‖ ₃₁₀₁₃₀₅		**Disable ISBN Check Digit Transmission**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ ‖ ₃₁₀₁₃₁₇		**Enable Bookland to ISBN Conversion** - Not available with all models.
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖‖ ‖ ₃₁₀₁₃₀₇	*	**Disable Bookland to ISBN Conversion**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖ ‖‖ ₃₁₀₁₃₁₆		**Enable ISBN Re-Formatting**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖ ₃₁₀₁₃₀₆	*	**Disable ISBN Re-Formatting**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ ‖ ₃₁₂₅₁₁₅		**Enable Bookland to ISBN 979 Conversion**

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‖‖ ▌▌‖‖‖‖ ‖‖‖ ‖‖‖ 3 1 2 5 1 0 5	*	**Disable Bookland to ISBN 979 Conversion**
‖‖ ▌▌‖‖‖‖ ‖‖ ‖ ‖‖‖ 3 1 2 5 1 0 6	*	**Normal ISBN Re-Formatting**
‖‖ ▌▌ ‖‖‖‖ ‖‖ ‖ ‖‖‖ 3 1 2 5 1 1 6		**13 Digit ISBN Re-Formatting**
‖‖ ▌▌ ‖‖▌ ‖‖‖‖ ‖‖‖ 3 1 0 1 2 1 0		**Disable Supplementalwhen CodeGate Button is Pressed** - Available for MS837 scanner only. Requires standard Code Gate be inactive in and out of stand.
‖‖ ▌▌‖‖▌ ‖‖‖‖ ‖‖ ‖‖ 3 1 0 1 2 0 0	*	**CodeGate Does Not Affect Supplemental Scanning** - Available for MS837 scanner only.
‖‖ ▌▌‖‖‖‖ ‖‖‖‖ ‖‖‖ 3 1 2 5 0 1 7		**No Supplement Checking if EAN-13 Code is just scanned**
‖‖ ▌▌‖‖‖‖ ‖‖‖ ‖ ‖‖‖ 3 1 2 5 0 0 7	*	**Normal Supplement Checking**

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GS1 Databar

Unitech's MS837 scanner can be configured to scan GS1 Databar type bar codes.

‖‖|‖‖‖|‖‖|‖||‖ ‖‖
3 1 0 0 0 1 1

Double Border Required - Due to the large spaces commonly found in GS1 Databar symbologies, Unitech recommends double border requirements be enabled when scanning GS1 Databar code type symbologies.

‖‖|‖‖‖‖|||‖‖|‖ ‖|
3 1 0 0 4 1 3

Enable GS1 Databar 14

‖‖|‖‖‖‖|||‖‖|‖ ‖‖
3 1 0 0 4 0 3

* **Disable GS1 Databar 14**

‖|‖|‖‖‖|‖‖‖‖|‖|
3 1 1 4 9 0 0

* **Transmit GS1 Databar 14 Check Digit**

‖‖|‖‖‖‖|‖|‖|‖|‖
3 1 1 4 9 1 0

Do Not Transmit GS1 Databar 14 Check Digit

‖‖|‖‖‖‖|‖‖‖‖|‖|
3 1 1 4 9 0 1

* **Transmit GS1 Databar 14 Application ID** - Application Identifier "01" is transmitted by default.

‖‖|‖‖‖‖|‖‖|‖|‖ ‖|‖
3 1 1 4 9 1 1

Do Not Transmit GS1 Databar 14 Application ID

‖|‖|‖‖‖|‖‖|‖‖‖|‖
3 1 1 4 9 0 2

* **Transmit GS1 Databar 14 Symbology ID** - Symbology Identifier "]e0" is transmitted by default.

‖|‖|‖‖|‖‖‖|‖‖‖| ‖|‖
3 1 1 4 9 1 2

Do Not Transmit GS1 Databar 14 Symbology

GS1 Databar Limited

‖|‖|‖‖‖|||‖‖|‖‖‖
3 1 0 0 4 1 4

Enable GS1 Databar Limited

‖‖|‖‖‖‖|||‖‖|‖|‖
3 1 0 0 4 0 4

* **Disable GS1 Databar Limited**

‖|‖|‖‖‖|‖‖|‖|‖‖
3 1 1 4 9 0 3

* **Transmit GS1 Databar Limited CD**

‖‖|‖‖‖‖|‖‖|‖|‖|‖
3 1 1 4 9 1 3

Do Not Transmit GS1 Databar Limited CD

‖‖ ‖ ‖‖‖ ‖ ‖‖‖‖‖‖ ‖‖ 3 1 4 9 0 4	*	**Transmit GS1 Databar Limited Application ID** - Application identifier "01" is transmitted by default.
‖‖ ‖ ‖‖‖ ‖‖ ‖‖‖‖ ‖‖ 3 1 4 9 1 4		**Do Not Transmit GS1 Databar Limited Application ID**
‖‖ ‖ ‖‖‖ ‖‖‖‖‖‖‖ ‖‖ 3 1 4 9 0 5	*	**Transmit GS1 Databar Limited Symbology ID** - Symbology identifier "]e0" is transmitted by default.
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖ ‖‖ 3 1 4 9 1 5		**Do Not Transmit GS1 Databar Limited Symbology ID**

GS1 Databar Expanded

‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖ 3 1 0 0 4 1 5		**Enable GS1 Databar Expanded**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖ ‖‖ 3 1 0 0 4 0 5	*	**Disable GS1 Databar Expanded**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖ ‖‖ 3 1 4 9 0 6	*	**Transmit GS1 Databar Expanded Symbol ID** - Symbology identifier "]e0" is transmitted by default.
‖‖ ‖ ‖‖‖ ‖‖ ‖‖‖‖ ‖‖ 3 1 4 9 1 6		**Do Not Transmit GS1 Databar Expanded Symbol ID**

ISBT Code 128 Implementation

Configuration Mode

Enable ISBT Code 128

Disable ISBT Code 128

The bar codes below enable or disable a special transmit mode as outlined in section 3.5.2 of the ISBT-128 Specification. This output method allows the user to confirm independently the accuracy of the Code-128 check digit.

Enable ISBT Special Transmit

Disable ISBT Special Transmit

The bar codes below enable or disable the transmission of the ISBT Code 128 data identifiers. When this option is enabled, the first two data characters are removed from the data stream (ID characters) unless the ISBT bar code scanned contains Donation Identification Number identifiers. If Donation Identification Number identifiers are present, only the first ID character is removed from the Donation ID Number. The second is regarded as normal data.

Don't Transmit ISBT ID's

*　Transmit ISBT Identifiers

The bar codes below convert and transmit the Mode 37, 2 check digit from the flag digits of the Donation Identification Number provided the check digit is contained in the flag digits. Transmission of the Donation Identification number will be the same except for the last two digits, which are converted into a single check sum character.

Convert Flag Digits to Mod 37, 2 CD

*　Normal Flag Digit Transmission

Concatenation Configuration Mode†

The following bar codes are used to configure variable time requirements used to find the second bar code of the ISBT concatenation sequence.

Barcode	Description
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖‖ 3 3 0 1 3 1 0	**100 msec to Find Concatenation Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖‖ 3 3 0 1 3 2 0	**200 msec to Find Concatenation Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖ 3 3 0 1 3 3 0	**300 msec to Find Concatenation Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖‖ 3 3 0 1 3 4 0	**400 msec to Find Concatenation Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖ ‖ ‖‖ 3 3 0 1 3 5 0	**500 msec to Find Concatenation Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖‖‖ ‖‖‖ 3 3 0 1 3 6 0	**600 msec to Find Concatenation, Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖ 3 3 0 1 3 7 0	**700 msec to Find Concatenation Sequence**

Pre-Defined Concatenation Configuration Mode†

The first two bar codes below enable or disable pre-defined concatenation sequences. The remaining bar codes enable the specific pre-defined concatenation sequence shown, but are not needed to enable concatenation. They can be used to disable or re-enable any selected pre-defined concatenation sequence.

Barcode	Description
‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ 3 1 3 8 4 1 3	**Enable Pre-Defined Concatenation Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖ ‖‖‖ 3 1 3 8 4 0 3	**Disable Pre-Defined Concatenation Sequence**
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖ ‖‖‖‖ 3 4 3 8 4 8 0	**Donation Identification Number + AB0/Rh (D) Blood Groups =á + =% Concatenation**

† This feature is only supported in the MS837 product series.

Barcode	Description
‖‖ ‖‖‖‖ ‖‖ ‖‖‖‖ ‖‖‖ (3 4 3 8 4 9 0)	**Donation Identification Number + Donor Identification Number =á + &; Concatenation**
‖‖ ‖‖‖‖‖‖ ‖ ‖ ‖‖‖‖‖ ‖ (3 4 3 8 4 1 0 0)	**Donation Identification Number + Confidential Unit Exclusion Status =á + &! Concatenation**
‖‖ ‖‖‖‖‖‖ ‖ ‖ ‖‖‖‖‖ ‖ (3 4 3 8 4 1 1 0)	**Product Code + Expiration Date (Form 1) =< + =>Concatenation**
‖‖ ‖‖‖‖‖‖ ‖ ‖ ‖‖‖‖‖ ‖ (3 4 3 8 4 1 2 0)	**Product Code + Expiration Date (Form 2) =< + &> Concatenation**
‖‖ ‖‖‖‖‖‖ ‖ ‖‖ ‖ ‖‖ ‖ (3 4 3 8 4 1 3 0)	**Product Code + Expiration Date (Form 3) &< + => Concatenation**
‖‖ ‖‖‖‖‖‖ ‖‖ ‖ ‖‖‖‖‖ (3 4 3 8 4 1 4 0)	**Product Code + Expiration Date (Form 4) &< + &> Concatenation**

User-Defined Concatenation Configuration Mode

The first two bar codes shown below can be used to enable or disable user- defined concatenation sequences. The remaining bar codes are used to enter the user-defined identifiers used in the concatenation sequence. First enter configuration mode then scan the one of the identifier codes, followed by the code byte sequence or the desired identifiers.

Barcode	Description
‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖ (3 1 3 8 4 1 4)	**Enable User-Defined Sequences**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ ‖‖ (3 1 3 8 4 0 4)	**Disable User-Defined Sequences**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖ ‖ (3 9 3 8 0 0 0)	**1st Left Identifier**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖ ‖‖ ‖ (3 9 3 8 1 0 0)	**2nd Left Identifier**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖ (3 9 3 8 2 0 0)	**1st Right Identifier**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖‖‖‖ ‖ (3 9 3 8 3 0 0)	**2nd Right Identifier**

† This feature is only supported in the MS837 product series.

The following example demonstrates how to configure the User-Defined ISBT identifiers:

Assume the left-hand identifiers are the ISBT defined donation identification number: "=G"; and the right hand identifiers are country specific identifiers "&a".

1. Scan the ENTER/EXIT configuration mode bar code.
2. Scan the 1st Left Identifier configuration mode bar code.
3. Scan (Code Byte 0) + (Code Byte 6) + (Code Byte 1).
4. Scan the 2nd Left Identifier configuration mode bar code.
5. Scan (Code Byte 0) + (Code Byte 7) + (Code Byte 1).
6. Scan the 1st Right Identifier configuration mode bar code.
7. Scan (Code Byte 0) + (Code Byte 3) + (Code Byte 8).
8. Scan the 2nd Right Identifier configuration mode bar code.
9. Scan (Code Byte 0) + (Code Byte 9) + (Code Byte 7).
10. Scan the Enable User-Defined Sequence bar Code.
11. Scan the Enable ISBT bar code.
12. Scan the ENTER/EXIT configuration mode bar code.

The scanner is now configured with the appropriate identifiers. Since both ISBT and User-defined Concatenation are enabled, ISBT 128 bar codes scanned successively that contain these identifiers will be concatenated.

An alternate method of the type found in section 4.8.1 of the ISBT specifications can be used for configuring user-defined concatenation sequences. Using the previous example, the identifiers can be configured into a single configuration mode bar code. The following bar codes can be used to enable and disable the user-defined concatenation.

Enable (Left, =G) + (Right, &a)

Disable (Left, =G) + (Right, &a)

Note: These configuration bar codes require Single-Code configuration mode. These bar codes are not recognized in Multi-Code configuration mode.

Two forms of concatenation can be enabled at any given time, one pre-defined sequence and the user-defined sequence. Code selects and ISBT Code-128 concatenation cannot be used simultaneously. Both functions use the same internal resources so they must remain mutually exclusive.

Scanner Operation

Configuration Mode Options

‖‖ ‖ ‖‖‖ ‖‖‖‖‖‖‖ ‖‖‖
3 1 1 8 1 1 7

Allow Configuration Mode on Power Up.

‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖ ‖
3 1 1 8 1 0 7

* **Allow Configuration Mode Anytime**.

‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖‖
3 1 1 8 1 1 6

Allow configuration Codes on Power Up - Once a product bar code is scanned after power- up, the scanner will not accept configuration bar codes.

‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖ ‖‖‖
3 1 1 8 1 0 6

* **Allow Configuration Codes Anytime** - Allows scanning of configuration bar codes at any time.

Scan Buffers

‖‖ ‖ ‖‖‖‖ ‖‖ ‖‖‖‖‖ ‖‖‖
3 3 1 8 0 0 0

* **1 Scan Buffer** - The scanner will scan one bar code in the scan field and not scan again until the bar code is removed from the scan field for the duration of the same symbol time out.

‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖‖ ‖ ‖ ‖
3 3 1 8 0 1 0

2 Scan Buffers - The scanner will scan two bar codes in the scan field one time each. These two bar codes will not be scanned again and until they are removed from the scan field for the duration of the same symbol time out.

‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖‖
3 3 1 8 0 2 0

3 Scan Buffers - Same function as 2 Scan Buffers, but three bar codes are in the scan field.

‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖ ‖‖ ‖‖
3 3 1 8 0 3 0

4 Scan Buffers - Same function as 2 Scan Buffers, but four bar codes are in the scan field.

Trigger/Continuous Scan Modes

‖‖‖‖‖‖‖‖‖‖‖‖‖
3 1 1 8 7 0 3   Enable Automatic Scanning

‖‖‖‖‖‖‖‖‖‖‖
3 4 1 8 3 3 4   Continuous Automatic Scanning – **The laser blinks continuously and the IR is inactive.**

‖‖‖‖‖‖‖‖‖‖‖
3 4 1 8 3 5 4   Enable Manual Trigger (Default scanning mode) **– The laser activates when the CodeGate button is pressed.**

Beeper Options

‖‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 7 5   * Normal Tone

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 6 5   Optional Tone 1

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 5 5   Optional Tone 2

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 4 5   Optional Tone 3

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 3 5   Optional Tone 4

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 2 5   Optional Tone 5

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 1 5   Optional Tone 6

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 5 0 5   No Beep

‖‖‖‖‖‖‖‖‖‖‖
3 3 1 8 4 0 6   * Beep Once on Supplements

‖‖‖‖‖‖‖‖‖‖‖
3 1 1 8 4 1 6   Beep Twice on Supplements

‖‖‖‖‖‖‖‖‖‖‖
3 1 1 8 4 1 4   Enable Fast Beep

‖‖‖‖‖‖‖‖‖‖‖
3 1 1 8 4 0 4   * Disable Fast Beep

‖‖‖‖‖‖‖‖‖‖‖
3 1 1 8 5 1 2   Enable Fun Tones **– scan this bar code then scan one of the Optional Tone bar codes above.**

‖‖‖‖‖‖‖‖‖‖‖
3 1 1 8 5 0 2   * Disable Fun Tones

Note:
To program the scanner to operate in Continuous Scan Mode, first scan the **Enable Automatic Scanning** bar code, then scan the **Continuous Automatic Scanning** bar code.

To restore the MS837 to its default manual scanning mode, scan the **Enable Manual Trigger** bar code.

Prefixes/Suffixes

Scan the Enter Configuration Mode bar code before trying to set these features (see the Multi-Code Method section).

User Configurable Prefixes, All Data

~ **Configurable Prefix Character #1** - A prefix ID can be added and assigned for data transmission. Use this code with a code byte sequence, which represents the desired character.

~ **Configurable Prefix Character #2** - Assigns a second configurable prefix character.

~ **Configurable Prefix Character #3** - Assigns a third configurable prefix character.

~ **Configurable Prefix Character #4** - Assigns a fourth configurable prefix character.

~ **Configurable Prefix Character #5** - Assigns a fifth configurable prefix character.

~ **Configurable Prefix Character #6** - Assigns a sixth configurable prefix character.

~ **Configurable Prefix Character #7** - Assigns a seventh configurable prefix character.

~ **Configurable Prefix #8** - Assigns an eighth configurable prefix character.

~ **Configurable Prefix Character #9** - Assigns a ninth configurable prefix character.

~ **Configurable Prefix Character #10** - Assigns a tenth configurable prefix character.

‖‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖ ‖‖
3 9 9 9 8 5

* **Clear All User Configurable Prefixes**

User Configurable ID Characters, Code Specific

‖‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖
3 1 0 5 5 0 7

* **Use Configurable Code ID Bytes as Prefixes** - User configured, code specific ID bytes are transmitted before the data. If using prefixes, user configured suffixes can not be used.

‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖‖
3 1 0 5 5 1 7

Use Configurable Code ID Bytes as Suffixes - User configured, code specific ID bytes are transmitted after the data. If using suffixes, user configured prefixes can not be used.

‡ Enter configuration mode then scan this bar code followed by the three code byte bar codes that represent a unique ID character to be associated with this bar code type.

‖‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖ ‖‖
3 9 0 5 6 0 0

~ **Configurable UPC-A ID ‡**

‖‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖
3 9 0 5 7 0 0

~ **Configurable UPC-E ID ‡**

‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖ ‖
3 9 0 5 8 0 0

~ **Configurable EAN-8 ID ‡**

‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖‖
3 9 0 5 9 0 0

~ **Configurable EAN-13 ID ‡**

‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖‖
3 9 0 6 0 0 0

~ **Configurable Code 39 ID ‡**

‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖‖‖‖
3 9 0 6 1 0 0

~ **Configurable Code 128 ID ‡**

‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖‖ ‖‖
3 9 0 6 3 0 0

~ **Configurable Code 93 ID ‡**

‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖‖‖ ‖‖
3 9 0 6 4 0 0

~ **Configurable Code 11 ID ‡**

‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖‖‖ ‖‖‖
3 9 0 6 2 0 0

~ **Configurable Telepen ID ‡**

‡ Enter configuration mode then scan this bar code followed by the three code byte bar codes that represent a unique ID character to be associated with this bar code type.

‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖‖
3 9 0 7 2 0 0

~ **Configurable TRI-OPTIC ID ‡**

‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖‖
3 9 0 7 1 0 0

~ **Configurable Standard 2 of 5 ID ‡**

‖‖ ‖‖‖‖‖‖‖‖‖‖‖‖‖‖
3 9 0 6 7 0 0

~ **Configurable Interleaved 2 of 5 ID ‡**

‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ 3 9 0 6 8 0 0	~	**Configurable Matrix 2 of 5 ID ‡**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖‖‖ 3 9 0 6 9 0 0	~	**Configurable Airline 2 of 5 ID ‡**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖‖ 3 9 0 6 5 0 0	~	**Configurable MSI Plessey ID ‡**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖‖ 3 9 0 7 0 0 0	~	**Configurable UK Plessey ID ‡**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖‖ 3 9 0 6 6 0 0	~	**Configurable Codabar ID ‡**
‖‖ ‖ ‖‖‖‖‖‖‖‖‖ ‖‖ ‖‖ 3 9 9 9 8 3	*	**Clear All Configurable Code Specific ID's** - Clears all unique ID characters previously identified.
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖ 3 1 0 5 5 1 6		**Enable Teraoka ID**
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖ 3 1 0 5 5 0 6	*	**Disable Teraoka ID**
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖ 3 1 2 4 7 1 6		**Enable Taiwan 7-11 ID**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖ ‖‖ 3 1 2 4 7 0 6	*	**Disable Taiwan 7-11 ID**

Standard Prefix Characters

‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖ ‖‖ 3 1 1 6 6 1 5		**Enable STX Prefix** - The scanner will transmit a Start of TeXt (ASCII 02H) before each bar code.
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖‖‖‖ 3 1 1 6 6 0 5	*	**Disable STX Prefix**
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖ ‖ 3 1 0 5 5 1 3		**Enable Rochford-Thomson Mode**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖ ‖ 3 1 0 5 5 0 3	*	**Disable Rochford-Thomson Mode**
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖ ‖ 3 1 0 7 9 1 5		**Enable AIM ID Characters**
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖‖‖ 3 1 0 7 9 0 5	*	**Disable AIM ID Characters**
‖‖ ‖ ‖‖‖‖ ‖‖‖‖ ‖‖‖‖‖‖ 3 1 1 6 6 1 7		**Enable UPC Prefix ID** - A prefix will be transmited before any UPC/EAN code. The prefixes are A (UPC-A), E0 (UPC-E), F (EAN-13), and FF (EAN-8).

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‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 6 0 7	*** Disable UPC Prefix ID.**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 1 1	**Enable NCR Prefix ID** - A prefix will be transmitted before the following code types. The prefixes are as follows: A (UPC-A), E0 (UPC-E), FF (EAN-8), F (EAN 13), B1 (Code 39) B2 (ITF), B3 (Code 128 and other codes).
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 0 1	*** Disable NCR Prefix ID**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 9 4 1 5 0 0	**Enable NCR Prefix Character**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 1 7	**Enable Nixdorf ID Characters** - This option transmits code identities before each bar code for many Siemen/Nixdorf registers.
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 0 7	*** Disable Nixdorf ID Characters**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 1 6	**Enable SANYO ID Characters**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 0 6	*** Disable SANYO ID Characters**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 5 5 1 2	**Enable Manufacturer ID Prefix**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 5 5 0 2	*** Disable Manufacturer ID Prefix**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 5 5 1 1	**Enable "C" Prefix**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 5 5 0 1	*** Disable "C" Prefix**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 5 5 1 0	**Enable "$" Prefix ID for UPC/EAN**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 0 5 5 0 0	*** Disable "$" Prefix ID for UPC/EAN**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 6 1 1	**Enable Tab Prefix** - The scanner will transmit a TAB (ASCII 09H) before each bar code.
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 6 0 1	*** Disable Tab Prefix**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 1 1 1	**Enable SNI Beetle Mode**
‖‖‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 1 0 1	*** Disable SNI Beetle Mode**

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‖‖‖‖‖‖‖‖ ³ 1 1 6 1 1 3		**Enable Cipher 1021 IDs**
‖‖‖‖‖‖‖‖ ³ 1 1 6 1 0 3	*	**Disable Cipher 1021 IDs**

Standard Suffix Characters

‖‖‖‖‖‖‖‖ ³ 1 1 6 6 1 3	*	**Enable CR Suffix** - The scanner transmits a carriage return after each bar code.
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 0 3		**Disable CR Suffix.**
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 1 2	*	**Enable LF Suffix** - The scanner transmits a line feed after each bar code. *Disabled when keyboard wedge defaults are loaded*.
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 0 2		**Disable LF Suffix.**
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 1 0		**Enable Tab Suffix** - The scanner will transmit a TAB (ASCII 09H) after each bar code.
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 0 0	*	**Disable Tab Suffix**
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 1 4		**Enable ETX Suffix** - The scanner will transmit End of TeXt (ASCII 03H) after the bar code date.
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 0 4	*	**Disable ETX Suffix**
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 1 6		**Enable UPC Suffix ID** - The scanner will transmit a suffix after any UPC/EAN bar code. The suffixes are A (UPC-A), E (UPC-E), F (EAN-13) and F (EAN-8).
‖‖‖‖‖‖‖‖ ³ 1 1 6 6 0 6	*	**Disable UPC Suffix ID**
‖‖‖‖‖‖‖‖ ³ 9 4 1 6 0 0		**Enable NCR Suffix Character**

Longitudinal Redundancy Check

A Longitudinal Redundancy Check (LRC) is an error checking character that is calculated across a sequence of data characters. It is determined by eXclusive ORing (XOR) the characters to be checked, starting with an initial value of 00H.

The result, an "LRC byte" is then transmitted following the data stream and used by the receiving computer to determine if the information was received correctly. In the scanner's case, XOR is performed prior to adding parity bits.

When the LRC is enabled, the scanner defaults to starting the LRC on the second byte of information transmitted. Optionally, the calculation can start on the first byte transmitted.

‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 8 1 1		**Enable Transmit of LRC Calculation** - The scanner outputs on LRC check character after the bar code.
‖‖‖‖‖‖‖‖‖ 3 1 0 7 8 0 1	*	**Disable Transmit of LRC Calculation.**
‖‖‖‖‖‖‖‖‖ 3 1 0 7 8 0 0	*	**Start LRC on First Byte** - The scanner will calculate the LRC check digit starting with the first character.
‖‖‖‖‖‖‖‖‖ 3 1 0 7 8 1 0		**Start LRC on Second Byte** - The scanner will calculate the LRC check digit starting with the second character.

Block Check Character

‖‖‖‖‖‖‖‖‖ 3 1 4 1 4 0 0	*	**Enable NCR BCC**
‖‖‖‖‖‖‖‖‖ 3 1 4 1 4 1 0		**Disable NCR BCC**

Character Replacements

To replace a character:

1. Scan the *enter/exit configuration mode* bar code on page 1.
2. Scan the *character to replace code* (shown below).
3. Scan the ASCII code byte value of the character you wish to replace. Refer to the ASCII Reference Table in the Code Byte Usage section of this manual.
4. Scan the *replacement character* bar code (shown below).
5. Scan the ASCII code byte value of the replacement character.
6. Scan the *enter/exit configuration mode* bar code on page 1.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Character to Replace**

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Replacement Character**

‖‖‖‖‖‖‖‖‖‖‖‖‖ **No Replacement**

User Configurable Suffixes, All Data

Note: Scan the *Enter/Exit Configuration mode* code before trying to set this feature. Refer to *Multi-Code Method* on page 1.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #1** - A suffix ID can be added and assigned for data transmission.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #2** - Assigns a second configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #3** - Assigns a third configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #4** - Assigns a fourth configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #5** - Assigns a fifth configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #6** - Assigns a sixth configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #7** - Assigns a seventh configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configured Suffix Character #8** - Assigns an eighth configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #9** - Assigns a ninth configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ **~** **Configurable Suffix Character #10** - Assigns a tenth configurable suffix character.

‖‖‖‖‖‖‖‖‖‖‖‖‖ ***** **Clear All User Configurable Suffixes**

Special Formats

‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 1 4		**Enable SINEKO Mode**
‖‖‖‖‖‖‖‖‖‖ 3 1 0 7 9 0 4	*	**Disable SINEKO Mode**
‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 7 1 1		**Enable Newcode Formatting Mode A**
‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 7 0 1	*	**Disable Newcode Formatting Mode A**
‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 7 1 0		**Enable Newcode Formatting Mode B**
‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 7 0 0	*	**Disable Newcode Formatting Mode B**
‖‖‖‖‖‖‖‖‖‖ 3 1 0 8 0 1 7		**Remove All Leading Zero's**
‖‖‖‖‖‖‖‖‖‖ 3 1 0 8 0 0 7	*	**Do Not Remove Leading Zero's**
‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 7 1 3		**Enable MS837 CAPS Lock**
‖‖‖‖‖‖‖‖‖‖ 3 1 1 6 7 0 3	*	**Disable MS837 CAPS Lock**
‖‖‖‖‖‖‖‖‖‖ 3 1 2 4 7 1 5		**Enable HCA Parsing**
‖‖‖‖‖‖‖‖‖‖ 3 1 2 4 7 0 5		**Disable HCA Parsing**

Code Formatting

UPC/EAN Formatting

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 1 7   ***   Transmit UPC-A Check Digit**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 0 7   **Do Not Transmit UPC-A Check Digit**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 1 6   **Transmit UPC-E Check Digit**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 0 6   ***   Do Not Transmit UPC-E Check Digit**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 1 5   **Expand UPC-E to 12 Digits** - Expand UPC-E bar codes to the 12 digit equivalent, UPC-A bar codes.

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 0 5   ***   Do Not Expand UPC-E to 12 Digits**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 6 0 2   ***   Send Number System on Expanded UPC E**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 6 1 2   **Do Not Send Number System on Expanded UPC E**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 1 0   **Enable GTIN Formatting**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 0 0   ***   Disable GTIN Formatting**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 1 4   **Convert UPC-A to EAN-13** - The scanner converts UPC-A to EAN-13 by transmitting a leading zero before the bar code.

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 0 4   ***   Do Not Convert UPC-A to EAN-13**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 1 3   **Transmit Lead Zero on UPC-E** - This option will transmit a zero before each UPC-E bar code.

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 0 3   **Do Not Transmit Lead Zero on UPC-E**

‖‖ ‖ ‖‖‖‖ ‖ ‖‖ ‖‖‖ ‖‖‖
₃ 1 0 7 5 1 2   **Convert EAN-8 to EAN-13** - The scanner will transmit five zeros before the bar code to convert EAN-8 to EAN-13.

‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖	*	**Do Not Convert EAN-8 to EAN-13**
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖‖ ‖‖‖	*	**Transmit UPC-A Number System**
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖‖‖ ‖‖‖		**Do Not Transmit UPC-A Number System**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖ ‖‖	*	**Transmit UPC-A MFR #**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖‖		**Do Not Transmit UPC-A MFR #**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖	*	**Transmit UPC-A ITEM #**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖‖‖ ‖‖ ‖‖		**Do Not Transmit UPC-A ITEM #**
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖ ‖‖ ‖‖	*	**Transmit EAN-8 Check Digit**
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖		**Do Not Transmit EAN-8 Check Digit**
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖‖‖ ‖‖	*	**Transmit EAN-13 Check Digits** - The scanner will transmit EAN-13 Check Digit.
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖		**Do Not Transmit EAN-13 Check Digit.**

Codabar Formatting

‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖‖		**Transmit Codabar Start/Stop Characters** - Transmits Codabar's Start/stop characters before and after each bar code.
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖	*	**Do Not Transmit Codabar Start/Stop**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖‖	*	**Normal Codabar Start/Stop Characters**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖		**Enable Transmit Codabar Start/Stop Characters as Lower Case Character**
‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖		**Enable CLSI Editing** - Works only with 14 digit Codabar type lengths. This option will perform CLSI type editing before the information is transmitted to the host.
‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖‖‖‖ ‖‖‖ ‖‖	*	**Do Not Enable CLSI Editing**

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‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖‖ 3 1 0 0 4 1 0	**Enable Codabar Mod-16 Check Digit**
‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖‖ 3 1 0 0 4 0 0	* **Disable Codabar Mod-16 Check Digit**
‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖ 3 1 0 0 4 1 1	**Enable Codabar "7-Check" Check Digit**
‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖ 3 1 0 0 4 0 1	* **Disable Codabar "7-Check" Check Digit**
‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖‖ 3 1 0 8 0 0 6	* **Transmit Codabar Check Digit Don't**
‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖‖ 3 1 0 8 0 1 6	**Transmit Codabar Check Digit**

Code 39 Formatting

‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖‖ ‖‖ 3 1 0 7 7 1 5	**Transmit Mod 43 Check Digit on Code 39** - This feature works in conjunction with Mod 43 *Check Digit on Code 39* option. Both must be enabled for this feature to work.
‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖ 3 1 0 7 7 0 5	* **Do Not Transmit Mod 43 Check Digit on Code 39**
‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖‖ ‖ ‖‖ 3 1 0 7 7 1 0	**Transmit Code 39 Stop/Start Characters** - The scanner transmits Code 39's start and stop characters before and after each bar code.
‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖ 3 1 0 7 7 0 0	* **Do Not Transmit Code 39 Stop/Start Characters**
‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖ 3 1 0 7 7 1 2	**Transmit an "A" (41H) Prefix if Italian Pharmaceutical**
‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖‖ ‖‖‖ 3 1 0 7 7 0 2	* **Do not Transmit an "A" (41H) Prefix if Italian Pharmaceutical**

Code 11 Formatting

‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖‖ ‖‖ 3 1 0 7 7 1 3	**Transmit Code 11 Check Digit** - This bar code will transmit Code 11 check characters when used with *Enabled Code 11*.
‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖ ‖‖ ‖‖ 3 1 0 7 7 0 3	* **Do Not Transmit Code 11 Check Digit**

Telepen

‖‖ ‖ ‖‖‖‖‖ ‖ ‖ ‖‖‖‖‖‖ ‖‖
3 1 0 7 8 1 4
Enable Convert Telepen ^L to E

‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖‖ ‖ ‖‖
3 1 0 7 8 0 4
* **Disable Convert Telepen ^L to E**

Plessey

‖‖ ‖ ‖‖‖‖‖ ‖ ‖ ‖‖‖‖‖‖‖ ‖‖
3 1 0 7 8 1 6
Transmit UK Plessey Check Digit - The scanner will transmit UK Plessey Check Digit characters and must be used with the UK Plessey option.

‖‖ ‖ ‖‖‖‖‖ ‖ ‖ ‖‖‖ ‖‖ ‖‖
3 1 0 7 8 0 6
* **Do Not Transmit UK Plessey Check Digit**

‖‖ ‖ ‖‖‖‖‖ ‖ ‖ ‖‖‖‖‖ ‖‖‖
3 1 0 7 8 1 5
Enable UK Plessey Special Format

‖‖ ‖ ‖‖‖‖‖ ‖ ‖ ‖‖ ‖‖ ‖‖‖
3 1 0 7 8 0 5
Disable UK Plessey Special Format

‖‖ ‖ ‖‖‖‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖ ‖‖
3 1 0 7 7 1 1
Transmit MSI Plessey Check Digit - This option works in conjunction with one or both of the Enabled MSI Plessey Mod options.

‖‖ ‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖‖‖‖ ‖‖
3 1 0 7 7 0 1
* **Do Not Transmit MSI Plessey Check Digit**

2 of 5 Code Formatting

‖‖ ‖ ‖ ‖‖‖‖ ‖‖ ‖‖‖‖‖‖ ‖ ‖‖
3 1 0 7 7 1 4
Transmit Mod 10 Check Digit on ITF - The scanner transmits interleaved 2 of 5 (ITF) Mod 10 check character.

‖‖ ‖ ‖ ‖‖‖‖ ‖ ‖‖‖‖‖‖‖ ‖ ‖‖
3 1 0 7 7 0 4
* **Do Not Transmit Mod 10 Check Digit on ITF** - Works in conjunction with Mod 10 check on ITF. Both must be enabled for this feature to work.

‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖
3 1 0 7 8 1 2
Transmit Matrix 2 of 5 Check Digit

‖‖ ‖ ‖‖‖‖‖ ‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖
3 1 0 7 8 0 2
* **Do Not Transmit Matrix 2 of 5 Check Digit**

Keyboard

Enable Keyboard Emulation

‖‖ ‖‖‖‖‖‖‖‖ ‖‖‖‖ ‖‖
³ 9 9 9 9 4

Load Keyboard Wedge Defaults - Loads the default settings for keyboard wedge mode.

‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖‖‖ ‖ ‖‖
³ 5 1 5 5 1 5 3

Enable Stand-Alone Keyboard Emulation - Use this with special stand-alone models that are not cabled for an external keyboard. Scan this bar code to enable the Stand-Alone Mode. The scanner will send keyboard "power on" information and configure hardware to simulate a constant keyboard connection.

‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖ ‖‖ ‖‖
³ 5 1 5 5 1 4 3

Enable Keyboard Wedge Emulation - Use this with an external keyboard. Transmit in wedge made to allow standard PC keyboards to communicate when no bar code data is available.

Country/Scan Code Table Selects

‖‖ ‖‖ ‖‖‖ ‖ ‖‖‖‖‖ ‖‖
³ 4 1 6 2 6 0

* USA Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖‖ ‖‖‖‖ ‖
³ 4 1 6 2 8 0

Switzerland Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖‖ ‖‖‖ ‖ ‖
³ 4 1 6 2 5 0

Spain Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖‖ ‖‖ ‖ ‖
³ 4 1 6 2 4 0

Italy Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖ ‖‖‖‖ ‖
³ 4 1 6 2 3 0

Germany Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖ ‖‖‖‖ ‖
³ 4 1 6 2 2 0

France Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖ ‖‖‖ ‖ ‖
³ 4 1 6 2 1 0

UK Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖ ‖‖ ‖ ‖
³ 4 1 6 2 0 0

Belgium Keyboard

‖‖ ‖‖ ‖‖‖ ‖ ‖‖ ‖‖ ‖
³ 4 1 6 2 1 0 0

Japan Keyboard

||| ||| ||| | || ||| ||||
IBM 4700 Financial Keyboard

||| ||| |||| | || ||||||| |
Sweden/Finland Keyboard

||| || || |||||||||| | ||||| |||
Slovenian Keyboard

Keyboard/System Type

||| || |||||| ||||||| |||
* **AT Keyboard** - Includes IBM PS/2 and compatible models 50, 55, 60, 80.

||| || |||||| ||| |||||| |||
XT Keyboard - Special firmware in Voyager.

||| || |||||| |||||||| ||||
PS/2 Keyboard - Includes IBM PC and compatible models 30, 70, 8556.

||| || |||||| ||| |||||| |||
Enable Terminal Keyboard Emulation.

||| || |||| ||||| || ||||| |||
Enable XT Keyboard for Mode 1 - Special firmware in Voyager.

||| || |||| ||||| | ||| ||| |||
Enable XT Keyboard for Mode 2 - Special firmware in Voyager.

'Dumb' Terminal Selections

Note: The following terminals may require custom cables.

||| || |||||| ||| ||||||| |||
IBM Terminal Keyboards

||| || |||||| ||| ||| |||| | |
Reserved Terminal Keyboard #2

||| || |||||| ||| || ||||| |||
Reserved Terminal Keyboard #3

||| || |||||| ||| |||| | ||| |||
Reserved Terminal Keyboard #4

||| || |||||| ||| || | |||| |||
Reserved Terminal Keyboard #5

||| || |||||| ||| || |||| || |||
Reserved Terminal Keyboard #6

||| || |||||| ||| ||||||| |||
Reserved Terminal Keyboard #7

‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖ ‖ ‖‖‖ 3 1 6 4 7 0	**Reserved Terminal Keyboard #8**
‖‖ ‖ ‖‖‖‖ ‖‖ ‖‖‖‖‖‖‖‖ 3 1 6 7 1 4	**Lower Case Lock On** - transmit all data as lower case.
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖‖‖ 3 1 6 7 0 4	* **Lower Case Lock Off**
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖‖‖ 3 1 6 7 1 5	**Spanish Keyboard Ñ Substitution** - the following two characters will translate as follows: # to Ñ and ^ to ñ.
‖‖ ‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖‖‖ 3 1 6 7 0 5	* **No Spanish Keyboard Ñ Substitution**

Special Keyboard Features

‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖ ‖‖‖‖‖‖ 3 1 6 3 1 1	**Transmit Make Code Only** - Not available on all models.
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖ 3 1 6 3 0 1	* **Transmit Make/Break Code** - Not available on all models.
‖‖ ‖ ‖‖‖‖ ‖‖ ‖ ‖‖ ‖‖‖ 3 1 6 3 1 0	* **Transmit FOH Break Code** - The scanner will transmit the FOH in the break-code sequence.
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖ 3 1 6 3 0 0	**Do Not Transmit FOH Break Code**
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖ ‖‖ 3 1 6 3 1 5	**Transmit Cleanup Bit** - Use for certain NEC computers.
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖ ‖‖‖‖‖‖ 3 1 6 3 0 5	* **Do Not Transmit Cleanup Bit**
‖‖ ‖ ‖‖‖‖ ‖‖ ‖‖ ‖‖‖‖‖‖ 3 1 6 2 1 7	**Enable Alt-Mode** - See *Enable ALT-Mode Normal)* for description.
‖‖ ‖ ‖‖‖‖ ‖‖ ‖‖‖ ‖‖ ‖‖ 3 1 6 2 0 7	* **Disable Alt-Mode** - Caution: If host software application uses the right Alt key as a "Hot" key, Alt-mode must be disabled.

† These settings only apply if the Alt-Mode (shown above) is enabled.

‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖‖ 3 1 6 7 0 6	* **Enable Alt-Mode (Normal)** [†] The scanner will duplicate the following keyboard sequence; *Hold down the Alt key and Type the three digit decimal number that corresponds to the appropriate character.*
‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖ 3 1 6 7 1 6	**Enable Alt-Mode (Advanced)** [†] The scanner will duplicate the following keyboard sequence; *Hold down the Alt key and Type the four digit decimal number that corresponds to the appropriate character.*

‖‖ ‖ ‖‖‖ ‖‖ ‖‖‖‖‖ ‖‖ 3 1 1 6 2 1 4	**Enable Auto Detect Mode (AT/PS2)** - Automatically detects caps lock status.
‖‖ ‖ ‖‖‖ ‖ ‖ ‖‖‖‖‖‖‖ 3 1 1 6 2 0 4	* **Disable Auto Detect Mode (AT/PS2)**
‖‖ ‖ ‖‖‖ ‖‖ ‖‖‖‖‖ ‖‖ 3 1 1 6 2 1 4	**Enable Caps Lock (XT)**
‖‖ ‖ ‖‖‖ ‖ ‖ ‖‖‖‖‖‖‖ 3 1 1 6 2 0 4	* **Disable Caps Lock (XT)**
‖‖ ‖ ‖‖‖ ‖ ‖‖‖‖ ‖‖‖ 3 1 1 6 3 1 6	**Send Numbers as Keypad Data** - All data is sent as if it has been entered on a keypad.
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖ ‖‖‖ ‖ 3 1 1 6 3 0 6	* **Send Numbers as Normal Data**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖ 3 1 1 6 4 1 0	**Enable Reserved Feature**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖ ‖ ‖ 3 1 1 6 4 0 0	* **Disable Reserved Feature**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖ ‖‖ ‖‖ 3 1 1 6 3 0 3	* **Use Extended ASCII To Send Extended Key Codes** - Use extended ASCII characters to send PC keyboard keys e.g., F1, F2.
‖‖ ‖ ‖‖‖ ‖‖‖ ‖ ‖‖‖‖ ‖ 3 1 1 6 3 1 3	**Use Extended ASCII Characters as Extended ASCII>** - Transmit extended ASCII codes via Alt Mode.
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖ ‖‖‖ ‖ 3 1 1 6 3 0 4	* **Character KB Inhibit**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖ ‖‖‖ ‖ 3 1 1 6 3 1 4	**Message KB Inhibit**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖ ‖‖‖ 3 1 1 6 3 0 2	**Enable Right Alt Key Sequencing**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖‖‖ ‖ 3 1 1 6 3 1 2	**Disable Right Alt Key Sequencing**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖ 3 1 1 6 4 1 3	**Enable LaCaixa Special Keyboard Prefix & Suffix Scan Codes**
‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖‖‖ ‖‖ 3 1 1 6 4 0 3	* **Disable LaCaixa Special Keyboard Prefix & Suffix Scan Codes**

InterScan Code Delays

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ 8 1 6 5 8 0

* InterScan Code Delay 800 msec - The time specified represents the amount of time between individual 11-bit scan codes. This parameter may need to be adjusted for operation with certain PC keyboard BIOS.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ 8 1 6 5 7 5 0

InterScan Code Delay 7.5 msec - This time specified represents the amount of time between individual 9-bit scan codes. This parameter may need to be adjusted for operation with certain PC keyboard BIOS.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ 8 1 6 5 1 5 0 0

InterScan Code Delay 15 msec - The time specified represents the amount of time between individual 11-bit scan codes. This parameter may need to be adjusted for operation with certain PC keyboard BIOS.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ 9 1 6 5 0 0

~ Variable InterScan Code Delay msec - Refer to *Multi-Code* Method on page 1. Sets value in 100 microsecond increments.

Control Sets

In general, standard bar code symbologies will only encode the ASCII character set. Function keys, arrow keys and many other extended keys on an IBM compatible keyboard do not translate to ASCII characters. One method of 'bar coding' the extended keys is to substitute the extended key codes when a specific ASCII control character is found in the bar code stream. The Control Sets are specific translations of the ASCII (HEX) set.

Control Set #1

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ 4 1 6 4 8 4

Enable Control Set #1

‖‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ 4 1 6 4 0 4

* Disable Control Set #1

ASCII (HEX)	ASCII Control	Extended Key
00H	Null	Numeric Keypad + (Plus)
01H	SOH	Num Lock
02H	STX	Down Arrow
03H	ETX	Numeric Keypad - (Minus)
04H	EOT	Insert
05H	ENQ	Delete
06H	ACK	System Request
07H	BEL	➔ (Right Arrow)
08H	BS	← (Left Arrow)
09H	TAB	Tab
0AH	LF	Caps Lock
0BH	VT	Shift Tab
0CH	FF	Left Alt
0DH	CR	Enter
0EH	SO	Left Control
OFH	SI	Up Arrow
10H	DLE	F1
11H	DC1	F2
12H	DC2	F3
13H	DC3	F4
14H	DC4	F5
15H	NAK	F6
16H	SYN	F7
17H	ETB	F8
18H	CAN	F9
19H	EM	F10
1AH	SUB	Home
1BH	ESC	Esc
1CH	FS	Page Up
1DH	GS	Page Down
1EH	RS	Print Screen
1FH	US	End

USB Settings

‖‖‖‖‖‖‖‖‖‖‖ **Enable USB Interface♦**

‖‖‖‖‖‖‖‖‖‖‖ **Enable Low Speed USB Defaults♦**

♦ This feature is limited to the scanner without integrated Low Speed USB electronics. These bar codes configure the scanner to communicate.

‖‖‖‖‖‖‖‖‖‖‖ **Load Integrated Full Speed USB Keyboard Emulation Defaults**

‖‖‖‖‖‖‖‖‖‖‖ **Load Integrated Low Speed USB OPOS Defaults** Feature is limited to scanners with internal Low-Speed USB interfaces with specific software versions.

‖‖‖‖‖‖‖‖‖‖‖ * **Enable USB Keyboard Emulation Mode**

‖‖‖‖‖‖‖‖‖‖‖ **Enable Uni-Directional USB Serial Emulation Mode**
Note: This bar code enables ***Bi-Directional*** *USB Serial Emulation Mode.*

‖‖‖‖‖‖‖‖‖‖‖ **Enable Bi-Directional USB Serial Emulation Mode**

‖‖‖‖‖‖‖‖‖‖‖ **Enable Bar Code ID**

‖‖‖‖‖‖‖‖‖‖‖ **Disable Bar Code ID**

‖‖‖‖‖‖‖‖‖‖‖ **Enable USB Reserve Code #1**

‖‖‖‖‖‖‖‖‖‖‖ **Disable USB Reserve Code #1**

‖‖‖‖‖‖‖‖‖‖‖ **Enable USB Reserve Code #2**

‖‖‖‖‖‖‖‖‖‖‖ **Disable USB Reserve Code #2**

‖‖‖‖‖‖‖‖‖‖‖ **Sears USB Defaults**

‖‖‖ ‖‖ ‖‖‖‖ ‖‖ ‖‖‖‖‖‖ ‖‖ ‖‖ 3 1 1 7 8 1 7	**Enable Bar Code ID**
‖‖‖ ‖‖ ‖‖‖‖‖ ‖‖‖ ‖‖‖‖‖‖‖ ‖‖ 3 1 1 7 8 0 7	**Disable Bar Code ID**
‖‖‖ ‖‖ ‖‖‖‖ ‖‖‖ ‖‖‖‖‖‖ ‖‖ 3 1 1 9 8 1 7	**Enable USB Reserve Code #1**
‖‖‖ ‖‖ ‖‖‖‖‖ ‖‖‖ ‖‖ ‖‖ ‖‖ 3 1 1 9 8 0 7	**Disable USB Reserve Code #1**
‖‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ 3 9 9 9 9 7 3	**Enable USB Reserve Code #2**
‖‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ 3 9 9 9 9 7 2	**Disable USB Reserve Code #2**
‖‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖ ‖‖‖‖ ‖‖‖ 3 9 9 9 9 6 7	**Sears USB Defaults**
‖‖‖ ‖‖ ‖‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ 3 9 9 9 9 6 6	**Sears Aux Defaults**

Note: **MS837 is not supporting virtual COM.**
The current driver software is not able to enumerate the scanner as COM port device, even though you set the device to USB Serial mode.

The possible way to configure the device with the setting barcodes is to get one RS232 cable and a power adapter. Then you'll be able to connect the scanner to host with them.

RS232 Settings

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ⁴ ¹ ⁵ ⁵ ⁵ ⁴

* Enable RS232 – The scanner will work with RS232 +/- 12V serial output.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ¹ ¹ ⁵ ⁹ ¹ ⁶

Transmit Scanner ID byte with receipt of an "i" (69H) via RS232 – The ID byte is transmitted as 3 bytes (i.e. 0, 0, 1).

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ¹ ¹ ⁵ ⁹ ⁰ ⁶

* Don't Transmit Scanner ID byte with receipt of an "i" (69H) via RS232

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ¹ ² ⁵ ⁰ ¹ ⁶

Disable RS232 Receive

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ¹ ² ⁵ ⁰ ⁰ ⁶

Normal RS232 Receive

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ⁴ ¹ ⁵ ⁵ ⁵ ⁴

* Enable RS232 Mode – the scanner will work with RS232 +/-12V serial output.

Parity Features

A parity bit is an extra data bit used to help catch data transmission errors.
The scanner's parity must match the host's parity.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ³ ¹ ⁶ ⁰ ⁴ ⁵

No Parity

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ³ ¹ ⁶ ⁰ ⁰ ⁵

Odd Parity – Select to set the parity bit to either a 1 or a 0 to ensure an odd number of bits are 1s.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ³ ¹ ⁶ ⁰ ¹ ⁵

* Space Parity – Select to set the parity bit always to 0.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ³ ¹ ⁶ ⁰ ² ⁵

Even Parity – Select to set the parity bit to either a 1 or 0 to ensure an even number of bits are 1s.

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ³ ¹ ⁶ ⁰ ³ ⁵

Mark Parity – Select Mark Parity to set the parity bit always to 1.

Baud Rate

‖‖‖‖‖‖‖‖‖‖‖‖‖‖
³ ⁴ ¹ ⁵ ⁸ ¹ ⁰ ⁰

115200 BAUD Rate

‖‖‖‖‖‖‖‖‖‖‖‖
³ ⁴ ¹ ⁵ ⁸ ⁹ ⁰

57600 BAUD Rate

‖‖‖‖‖‖‖‖‖‖‖‖
³ ⁴ ¹ ⁵ ⁸ ⁸ ⁰

38400 BAUD Rate

‖‖‖‖‖‖‖‖‖‖‖ **19200 BAUD Rate**
3 4 1 5 8 7 0

‖‖‖‖‖‖‖‖‖‖‖ **14400 BAUD Rate**
3 4 1 5 8 6 0

‖‖‖‖‖‖‖‖‖‖‖ * **9600 BAUD Rate**
3 4 1 5 8 5 0

‖‖‖‖‖‖‖‖‖‖‖ **4800 BAUD Rate**
3 4 1 5 8 4 0

‖‖‖‖‖‖‖‖‖‖‖ **2400 BAUD Rate**
3 4 1 5 8 3 0

‖‖‖‖‖‖‖‖‖‖‖ **1200 BAUD Rate**
3 4 1 5 8 2 0

‖‖‖‖‖‖‖‖‖‖‖ **600 BAUD Rate**
3 4 1 5 8 1 0

‖‖‖‖‖‖‖‖‖‖‖ **300 BAUD Rate**
3 4 1 5 8 0 0

Data/Stop Bits

‖‖‖‖‖‖‖‖‖‖‖ **8 Data Bits** – The number of data bits transmitted for each character.
3 1 1 6 0 1 3

‖‖‖‖‖‖‖‖‖‖‖ * **7 Data Bits**
3 1 1 6 0 0 3

‖‖‖‖‖‖‖‖‖‖‖ **1 Stop Bit**
3 1 1 6 0 1 4

‖‖‖‖‖‖‖‖‖‖‖ * **2 Stop Bits**
3 1 1 6 0 0 4

Hardware Handshaking

‖‖‖‖‖‖‖‖‖‖‖ **Enable RTS/CTS Handshaking** – Output a *Request to Send* (RTS)
3 1 1 5 8 1 6 signal and wait for a *Clear to Send* (CTS) signal before transmitting data.

‖‖‖‖‖‖‖‖‖‖‖ * **Disable RTS/CTS Handshaking.**
3 1 1 5 8 0 6

‖‖‖‖‖‖‖‖‖‖‖ * **Character RTS/CTS** – Activates/Deactivates RTS signal for each
3 1 1 5 8 1 5 character.

‖‖‖‖‖‖‖‖‖‖‖ **Message RTS/CTS** – Activates RTS before sending the first character
3 1 1 5 8 0 5 and leaves it active until after the last character has been transmitted.

‖‖‖‖‖‖‖‖‖‖‖ **Invert RTS Polarity (RSV1)**
3 1 2 4 5 1 0 -12V = Active   +12V = Inactive

‖‖‖‖‖‖‖‖‖‖‖ * **Standard RTS Polarity** – Use standard RTS polarity
3 1 2 4 5 0 0 -12V = Inactive   +12V = Active

|||| ||| |||||||| ||||| |||
³ 1 2 4 5 1 1

Invert CTS Polarity (RSV2)
-12V = Active,   +12V = Inactive,
          OK to send   Do not send

|||| ||| |||||||| |||||||| |||
³ 1 2 4 5 0 1

* **Standard CTS Polarity**
-12V = Inactive,   +12V = Active,
          Do not send   OK to send

|||| || ||||||||| |||| ||| |||
³ 1 2 4 5 1 2

Activate RTS, Do Not Wait for CTS (RSV3) – Activate RTS for transmission but do not wait for CTS to send.

|||| || |||||||| |||||| |||
³ 1 2 4 5 0 2

* **Activate RTS, Wait for CTS** – Wait for CTS after activating RTS.

|||| || ||||||||| |||| || |||
³ 1 2 4 5 1 3

Test CTS Not Present Before RTS (RSV4) – Do not activate RTS if CTS is already present.

|||| || |||||||| |||| |||| |||
³ 1 2 4 5 0 3

* **Do Not Test for CTS Present Before RTS**

|||| || ||||| ||| ||||| |||
³ 1 1 5 8 1 7

Enable DTR Support – The scanner will stop scanning when the *Data Terminal Ready* (DTR) signal goes inactive.

|||| || ||||| ||| ||| |||||| |||
³ 1 1 5 8 0 7

* **Disable DTR Support**

|||| || ||||| ||| ||||||| |||
³ 1 1 5 9 1 5

Enable RTS Counter Toggle – The scanner will toggle the RTS line on a good decode.

|||| || ||||| ||| |||| ||| ||| |||
³ 1 1 5 9 0 5

* **Disable RTS Counter Toggle**

|||| || ||||| ||| ||||||| |||
³ 1 1 5 9 1 4

Enable XON/XOFF Handshaking – The scanner will stop transmission whenever on XOFF (ASCII 13H) is received. Transmission will resume after an XON (ASCII 11H) is received**.**

|||| || ||||| ||| |||| ||||| |||
³ 1 1 5 9 0 4

* **Disable XON/XOFF Handshaking.**

Software Handshaking

|||| || |||||| ||| ||||||| |||
³ 1 1 5 9 1 3

Enable ACK/NAK – After transmitting data, wait for an ACK (06H) or a NAK (15H) response from the host. If ACK is received, complete the communications cycle and look for more bar codes. If NAK is received, retransmit the last set of bar code data and wait for ACK/NAK again.

|||| || |||||| ||| ||||| ||||| |||
³ 1 1 5 9 0 3

* **Disable ACK/NAK**

|||| || |||||| ||| ||| ||||||| |||
³ 1 1 5 9 1 1

Support BEL/CAN in ACK/NAK – When BEL (07H) is received, the scanner beeps 3 times and exits the communications loop. If a CAN (18H) is received, then the scanner will exit the communications loop, silently.

‖‖ ‖ ‖‖‖ ‖‖ ‖‖‖‖‖ ‖ ‖‖‖
³ 1 1 5 9 0 1

* **Ignore BEL/CAN in ACK/NAK** – Ignore BEL/CAN characters in communication loop.

‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖
³ 1 1 8 0 1 3

Enable 5 Retries on ACK/NAK Time Out – Allow up to 5 NAK retransmissions of the data before dropping out of the communications loop.

‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖
³ 1 1 8 0 1 3

* **Disable 5 Retries on ACK/NAK Time Out**

‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖‖‖‖ ‖‖
³ 1 1 5 8 1 4

Enable 5 NAK Retries
Allow up to 5 retransmissions of the data if a NAK is received.

‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖‖ ‖‖‖ ‖‖‖
³ 1 1 5 8 0 4

* **Disable 5 NAK Retries**

‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖
³ 1 2 5 2 1 0

Enable GLS Handshaking – Accept]V for the ACK acknowledgement. ACK will no longer be accepted but NAK and any additional ACK/NAK protocol characters enabled are still accepted.

‖‖ ‖ ‖‖‖‖‖‖‖ ‖‖‖‖‖‖‖ ‖‖
³ 1 2 5 2 0 0

* **Disable GLS Handshaking**

Miscellaneous

‖‖ ‖ ‖‖‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖
³ 1 1 6 1 1 0

Enable French PC Term – The scanner transmits PC type make/break scan codes instead of ASCII data characters. The scan codes match a WYSE French PC Term.

‖‖ ‖ ‖‖‖ ‖‖‖‖ ‖‖‖‖‖‖ ‖‖
³ 1 1 6 1 0 0

* **Disable French PC Term**

‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖ ‖‖ ‖‖
³ 1 4 1 4 1 6

Enable NCR Scanner – Only Commands

‖‖ ‖ ‖‖‖‖‖‖‖‖‖‖‖‖‖ ‖‖‖
³ 1 4 1 4 0 6

* **Disable NCR Scanner – Only Commands**

Code Bytes Usage

The scanner must be in Configuration Mode for the features requiring code bytes for configuration. The Enter/Exit Configuration Mode bar code must be scanned before starting the configuration cycle. User configurable prefix/suffix characters can then be saved by scanning the 3 digit decimal equivalent of the ASCII character into the appropriate character location with the code byte bar codes.

Example: To add an Asterisk (*) as a Prefix scan the following bar codes in order.
1. *Enter/Exit Configuration Mode*   (3 beeps)
2. Configurable Prefix #1   (1 beep)
3. Code Byte 0   (1 beep)
4. Code Byte 4   (2 beeps)
5. Code Byte 2   (3 beeps)
6. *Enter/Exit Configuration Mode*   (3 beeps)

Code Bytes 0–9

Code Byte 0

Code Byte 1

Code Byte 2

Code Byte 3

Code Byte 4

Code Byte 5

Code Byte 6

Code Byte 7

Code Byte 8

Code Byte 9

Reserved Codes

‖‖‖‖‖‖‖‖‖‖ ~ **Enable Reserved Code**
³ 9 9 9 9 8 8

‖‖‖‖‖‖‖‖‖‖ ~ **Disable Reserved Code**
³ 9 9 9 9 8 7

Code Type Table

Code Byte	Comment (Symbology)
002	UPC-E
003	EAN-8
004	UPC-A
005	EAN-13
080	Code 39
081	Codabar
082	Inteleaved 2 of 5
083	Code 128
084	Code 93
091	MSI Plessey
092	Code 11
093	Airline 2 of 5 (15 digit)
094	Matrix 2 of 5
095	Telepen
096	UK Plessey
097	Airline (13 digits)
098	Standard 2 of 5
099	TRI-OPTIC

ASCII Reference Table

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
00	000	NUL	@
01	001	SOH	A
02	002	STX	B
03	003	ETX	C
04	004	EOT	D
05	005	ENQ	E
06	006	ACK	F
07	007	BEL	G
08	008	BS	H
09	009	HT	I
0A	010	LF	J
0B	011	VT	K
0C	012	FF	L
0D	013	CR	M

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
0E	014	SO	N
0F	015	SI	0
10	016	DLE	P
11	017	DC1	Q
12	018	DC2	R
13	019	DC3	S
14	020	DC4	T
15	021	NAK	U
16	022	SYN	V
17	023	ETB	W
18	024	CAN	X
19	025	EM	Y
1A	026	SUB	Z
1B	027	ESC	[
1C	028	FS	\
1D	029	GS	^
1E	030	RS	_
1F	031	US	space,blank
20	032	SP	
21	033	!	
22	034	"	
23	035	#	
24	036	$	
25	037	%	
26	038	&	
27	039	'	apostrophe
28	040	(	
29	041	)	
2A	042	*	
2B	043	+	
2C	044	,	comma
2D	045	-	minus
2E	046	.	period
2F	047	/	
30	048	0	number zero
31	049	1	number one
32	050	2	
33	051	3	
34	052	4	
35	053	5	
36	054	6	
37	055	7	
38	056	8	

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
39	057	9	
3A	058	:	
3B	059	;	
3C	060	<	less than
3D	061	+	
3E	062	>	greater than
3F	063	?	
40	064	@	shift P
41	065	A	
42	066	B	
43	067	C	
44	068	D	
45	069	E	
46	070	F	
47	071	G	
48	072	H	
49	073	I	letter I
4A	074	J	
4B	075	K	
4C	076	L	
4D	077	M	
4E	078	N	
4F	079	O	letter O
50	080	P	
51	081	Q	
52	082	R	
53	083	S	
54	084	T	
55	085	U	
56	086	V	
57	087	W	
58	088	X	
59	089	Y	
5A	090	Z	
5B	091	[	shift K
5C	092	\	shift L
5D	093	]	shift M
5E	094	^	à,shift N
5F	095	_	♣, shift 0, underscore
60	096	'	accent grave
61	097	a	
62	098	b	
63	099	c	

HEX Value	Decimal Value/ Code Byte Value	Character	Control Keyboard Eqv
64	100	d	
65	101	e	
66	102	f	
67	103	g	
68	104	h	
69	105	I	
6A	106	j	
6B	107	k	
6C	108	l	
6D	109	m	
6E	110	n	
6F	111	o	
70	112	p	
71	113	q	
72	114	r	
73	115	s	
74	116	t	
75	117	u	
76	118	v	
77	119	w	
78	120	x	
79	121	y	
7A	122	z	
7B	123	{	
7C	124	|	vertical slash
7D	125	}	alt mode
7E	126	~	(alt mode)
7F	127	DEL	delete, rubout

Extended Key Code Reference Table

Key	At Scan Code	PS2 Scan Code	3151	Prefix/Suffix Value Hex = Decimal
↑	75H	48H	63H	80H = 128
↓	72H	50H	60H	81H = 129
→	74H	4DH	6AH	82H = 130
←	6BH	4BH	61H	83H = 131
Insert	70H	52H	67H	84H = 132
Delete	71H	53H	64H	85H = 133
Home	6CH	47H	6EH	86H = 134
End	69H	4FH	00H	87H = 135
Page Up	7DH	49H	00H	88H = 136
Page Down	7AH	51H	00H	89H = 137
Right Alt	11H	38H	00H	8AH = 138
Right Ctrl	14H	1DH	39H	8BH = 139

Reserved	00H	00H	00H	8CH = 140
Reserved	00H	00H	00H	8DH – 141
Numeric Keypad Ente	5AH	1CH	79H	8EH = 142
Numeric Keypad/	4AH	35H	00H	8FH = 143
F1	05H	3BH	07H	90H = 144
F2	06H	3CH	0FH	91H = 145
F3	04H	3DH	17H	92H = 146
F4	0CH	3EH	1FH	93H = 147
F5	03H	3FH	27H	94H = 148
F6	0BH	40H	2FH	95H = 149
F7	83H	41H	37H	96H = 150
F8	0AH	42H	3FH	97H = 151
F9	01H	43H	47H	98H = 152
F10	09H	44H	4FH	99H = 153
F11	78H	57H	56H	9AH = 154
F12	07H	58H	5EH	9BH = 155
Numeric +	79H	4EH	00H	9CH = 156
Numeric -	7BH	4AH	7CH	9DH = 157
Numeric *	7CH	37H	00H	9EH = 158
Caps Lock	58H	3AH	14H	9FH = 159
Num Lock	77H	45H	00H	A0H = 160
Left alt	11H	38H	00H	A1H = 161
Left Ctrl	14H	1DH	11H	A2H = 162
Left Shift	12H	2AH	12H	A3H = 163
Right Shift	59H	36H	59H	A4H = 164
Print Screen	Multiple	00H	00H	A5H = 165
Tab	ODH	OFH	0DH	A6H = 166
Shift Tab	8DH	8FH	65H	A7H = 167
Enter	5AH	1CH	5AH	A8H = 168
ESC	76H	01H	08H	A9H = 169
Left ALT Make	11H	36H	00H	AAH = 170
Left ALT Break	11H	B6H	00H	ABH = 171
Left CTRL Make	14H	1DH	00H	ACH = 172
Left CTRL Break	14H	9DH	00H	ADH = 173
*Left ALT + 1 character	11H	36H	00H	AEH = 174
*Left Crtl + 1 character	14H	1DH	00H	AFH = 175
*Send			58H	C0H = 192
Clear			6FH	C1H = 193
Jump			76H	C2H = 194
Send Line			7EH	C3H = 195
Erase EOF			6DH	C4H = 196
Send – Make Only			58H	C5H = 197

*Example:
      1st Configurable Prefix = 174
      2nd Configurable Prefix = 065
      Scanner will transmit <left ALT Make> "A" <Left ALT Break>
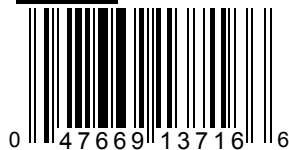
Barcode Test Chart

EAN-13

3 045214 834123

EAN-8

8012 3453

UPC-A

0 47669 13716 6

UPC-E

9 9

0 123457 2

ISBN   957-630-239-0

0 0 2 7 0

9 789576 302398

Interleaved 2 of 5

0987654321

Code 39

W+ E + D + G + E

Code 39 with C/D

UNI TECH- E

EAN 128

(01)054123456789(01)659344

Code 128

Unitech 128

Codabar

A2 2 3 5 7 0 0 0 5 9 9 8 7 6 B

MSI Code

1234558

Appendix C

Worldwide Support

Unitech's professional support team is available to quickly answer questions or technical-related issues. Should a set of equipment problem occurs, please contact the nearest Unitech regional service representative. For complete contact information please visit the Web sites listed below:

Region	Web Site
Global Operation Center	http://www.ute.com
Unitech Taiwan	http://tw.ute.com
Unitech Asia Pacific & Middle East	http://apac.ute.com ; http://india.ute.com
Greater China Division	http://cn.ute.com
Unitech Japan	http://jp.ute.com
Unitech America	http://us.ute.com ; http://can.ute.com
Unitech Latin America	http://latin.ute.com
Unitech Europe	http://eu.ute.com

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LXE
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elo
star
unitech
PRINTRONIX
symbol

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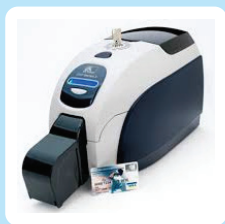
Label printers
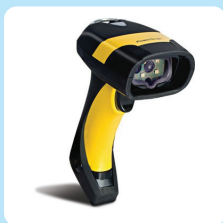
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Data terminals & PDA

PVC card printers

RFID

Consumables
(labels, ribbons, PVC cards)

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